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4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-2017-10-16-04** **Date: 18-10-17**
Customer	:	Assistant Executive Engineer, Byatarayanapura Sub Division, BBMP, Bangalore.
Address	:	Byatarayanapura Sub Division, BBMP, Bangalore.
Project Name	:	Pot Hole Filling to Roads in Ward No.06 (Thanisandra), Byatarayanapura Sub Division.
Agency	:	M/s.Sathya Construction, #600, Down Bazar Road, Yelahanka, Bangalore-560064
Customer Reference	:	BBMP/EE/BTP/WO/12/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-10-17
Sample ID No	:	2017-10-16-04-01
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	16-10-17
Oven Dry Weight	:	11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	315	315	2.9	97.1	95-100
22.4	2259	2574	23.4	76.6	60-80
11.2	2179	4753	43.2	56.8	40-60
4.75	2251	7004	63.7	36.3	25-40
2.36	1621	8625	78.4	21.6	15-30
0.6	623	9248	84.1	15.9	8-22
0.075	1338	10586	96.2	3.8	0-5

Note:-

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-2017-10-16-04**	**Date: 18-10-17**
Customer	:	Assistant Executive Engineer, Byatarayanapura Sub Division, BBMP, Bangalore.	
Address	:	Byatarayanapura Sub Division, BBMP, Bangalore.	
Project Name	:	Pot Hole Filling to Roads in Ward No.06 (Thanisandra), Byatarayanapura Sub Division.	
Agency	:	M/s.Sathya Construction, #600, Down Bazar Road, Yelahanka, Bangalore-560064	
Customer Reference	:	BBMP/EE/BTP/WO/12/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	16-10-17	
Sample ID No	:	2017-10-16-04-01	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	16-10-17	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.9	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.9	225.8
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.4
5	Aggregate impact value	(B/A)*100	24.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	24.6	

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-2017-10-16-04**	**Date: 18-10-17**
Customer	:	Assistant Executive Engineer, Byatarayanapura Sub Division, BBMP, Bangalore.	
Address	:	Byatarayanapura Sub Division, BBMP, Bangalore.	
Project Name	:	Pot Hole Filling to Roads in Ward No.06 (Thanisandra), Byatarayanapura Sub Division.	
Agency	:	M/s.Sathya Construction, #600, Down Bazar Road, Yelahanka, Bangalore-560064	
Customer Reference	:	BBMP/EE/BTP/WO/12/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	16-10-17	
Sample ID No	:	2017-10-16-04-01	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	16-10-17	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	25.3%	

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-10-21-01**	**Date: 23-10-17**
Customer	:	Asisstant Executive Engineer, Byatarayanapura Sub Division, BBMP, Bangalore.	
Address	:	Byatarayanapura Sub Division, BBMP, Bangalore.	
Project Name	:	Pot hole filling to roads in Ward no.06 (Thanisandra) Byatarayanapura Sub division.	
Agency	:	M/S . Sathya Construction, #600, Down bazaar road, Yelahanka, Bangalore-560064.	
Customer Reference	:	BBMP/EE/BTP/WO/12/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	21-10-17	
Sample ID No	:	2017-10-21-01/01	
Type of Mix	:	BC-Plant (Bituminous Concrete)	
Date of test	:	21-10-17	
Oven Dry Weight	:	5000	Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID	:	**CP-RW-2017-10-21-01**	**Date: 24-10-17**
Customer	:	Asisstant Executive Engineer, Byatarayanapura Sub Division, BBMP, Bangalore.	
Address	:	Byatarayanapura Sub Division, BBMP, Bangalore.	
Project Name	:	Pot hole filling to roads in Ward no.06 (Thanisandra) Byatarayanapura Sub division.	
Agency	:	M/S . Sathya Construction, #600, Down bazaar road, Yelahanka, Bangalore-	
Customer Reference	:	BBMP/EE/BTP/WO/12/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	21-10-17	
Sample ID No	:	2017-10-21-01/01	
Type of Mix	:	BC (Bituminous Concrete)	
Date of test	:	21-10-17	

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

Note:

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2017-10-21-01** **Date: 24-10-17**
Customer	:	Asisstant Executive Engineer, Byatarayanapura Sub Division, BBMP, Bangalore.
Address	:	Byatarayanapura Sub Division, BBMP, Bangalore.
Project Name	:	Pot hole filling to roads in Ward no.06 (Thanisandra) Byatarayanapura Sub division.
Agency	:	M/S . Sathya Construction, #600, Down bazaar road, Yelahanka, Bangalore-560064.
Customer Reference	:	BBMP/EE/BTP/WO/12/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	21-10-17
Sample ID No	:	2017-10-21-01/01
Type of Mix	:	BC(Bitumenous Concrete)
Date of test	:	21-10-17

Type of Binder	:	60/70
% of Binder Used	:	5.0%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.3	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

Note:
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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2017-10-21-01** **Date: 24-10-17**
Customer	:	Asisstant Executive Engineer, Byatarayanapura Sub Division, BBMP, Bangalore.
Address	:	Byatarayanapura Sub Division, BBMP, Bangalore.
Project Name	:	Pot hole filling to roads in Ward no.06 (Thanisandra) Byatarayanapura Sub division.
Agency	:	M/S . Sathya Construction, #600, Down bazaar road, Yelahanka, Bangalore-560064.
Customer Reference	:	BBMP/EE/BTP/WO/12/2017-18
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	21-10-17
Sample ID No	:	2017-10-21-01/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	21-10-17

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	–

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	**CP-RW-2017-10-26-01**	**Date: 28-10-17**
Customer	:	Asisstant Executive Engineer, Byatarayanapura Sub Division, BBMP, Bangalore.	
Address	:	Byatarayanapura Sub Division, BBMP, Bangalore.	
Project Name	:	Pot hole filling to roads in Ward no.06 (Thanisandra) Byatarayanapura Sub division.	
Agency	:	M/S . Sathya Construction, #600, Down bazaar road, Yelahanka, Bangalore-560064.	
Customer Reference	:	BBMP/EE/BTP/WO/12/2017-18	
Source of Sample	:	Sample supplied by Agency	
Date of Receipt	:	26-10-17	
Sample ID No	:	2017-10-26-01/01	
Type of Mix	:	BC (Bituminous Concrete)	
Date of test	:	26-10-17	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	501
2	Weight of the sample After extraction	B	477	476
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	4.60	4.99
4	Average percentage	%	4.8	

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Lab ID : **CP-RW-2017-10-26-01** **Date: 28-10-17**

Sample ID : **2017-10-26-01/01**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 478.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	13.8	86.2	70-88
4.75	112	178	37.2	62.8	53-71
2.36	88	266	55.6	44.4	42-58
1.18	29	295	61.7	38.3	34-48
0.6	11	306	63.9	36.1	26-38
0.3	46	352	73.6	26.4	18-28
0.15	45	397	83.0	17.0	12-20
0.075	55	452	94.5	5.5	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 478

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	5	5	1.0	99.0	90-100
9.5	65	70	14.6	85.4	70-88
4.75	110	180	37.7	62.3	53-71
2.36	76	256	53.6	46.4	42-58
1.18	31	287	60.0	40.0	34-48
0.6	42	329	68.8	31.2	26-38
0.3	38	367	76.8	23.2	18-28
0.15	32	399	83.5	16.5	12-20
0.075	45	444	92.9	7.1	4-10

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